

FOREST INSECT CONDITIONS ON THE
SAWTOOTH N.F.
1972

This report was compiled on the basis of information obtained from aerial detection surveys, on-the-ground biological evaluations, and detection reports submitted by the Forest staff.

For the third consecutive year, standing tree attacks by Douglas fir beetle caused group fading along the South Fork of the Boise River and its tributaries and was characterized by increasing frequency of 3 to 10 tree groups and the occurrence of more fading in larger groups over 10 trees. The availability of large diameter lodgepole pine as a host continues to sustain the mountain pine beetle epidemic Forest-wide. In Sawtooth valley the incidence of attack in sapling pines by the lodgepole terminal weevil increased.

No defoliation of Douglas fir and true firs by western spruce budworm was observed in the Big Smoky-South Fork of Boise River drainages. This area had visible damage as recently as 1969, but the persistent pest has apparently been held in check by natural controls. Defoliation of *Ceanothus*, from light to complete, occurred on the Fairfield Ranger District during mid-summer. Although no ground surveys were initiated, it is suspected that larvae of the California tortoise shell butterfly did the damage.

DOUGLAS FIR BEETLE - *Dendroctonus pseudotsugae* Hopk.

High population levels of this insect continued to cause standing tree losses comparable or higher to those experienced last year. The South Fork of the Boise River, Smoky Creek drainages, and Lime Creek sustained heaviest mortality. In these areas, tree killing was more widely distributed than in 1971 with a higher frequency of group kills of 10 or more faders per group.

As previously recommended, a localized reduction in beetle populations in accessible areas can be effected through salvage logging and current year slash burning. Populations of *Dendroctonus* sp., whether they be *D. pseudotsugae* (Douglas fir beetle) or *D. ponderosae* (mountain pine beetle), are symptomatic of forests in an unmanaged state. If management action does not alter the stand conditions, i.e., remove old growth, or thin over-crowded trees, then these become prime habitat for insect population buildups. The influence of natural factors will, however, eventually cause the collapse of an epidemic, but a great deal of timber may be lost before natural control becomes effective.

Lesser infestations were recorded in Willow Creek (Fairfield Ranger District), Deer and Warm Springs Creeks (Ketchum Ranger District), and along the north facing slope of the Salmon River from Four Acres Creek to Slate Creek (Sawtooth NRA). Losses are characterized as being widely scattered, with small groups of trees killed.

MOUNTAIN PINE BEETLE - *Dendroctonus ponderosae* Hopk.

Heavy volume losses in lodgepole pine continued as this insect sustained high population levels in available large diameter trees. Extensive stand mortality was again observed in Warm Springs Creek, Big Wood River and their tributaries (Ketchum Ranger District), and across the entire Twin Falls Ranger District. For the most part, the epidemic in the South Fork of the Boise River appears to be declining, based on loss estimates from aerial observations. About 400 faders were detected in Warm Springs Creek, south of the Robinson Bar Ranch. Mountain pine beetle has been active in this portion of the new SNRA for several years, and is restricted to the lodgepole pine type in the creek bottom.

LODGEPOLE TERMINAL WEEVIL - *Pissodes terminalis* Hopk.

Pith feeding by this insect on dominant laterals and terminal leaders averaged 64 percent in 300 lodgepole pine sapling study-trees last year. Intermittent or continuous weeviling of the terminals reduces vertical growth. At the commencement of this study in 1937, 34 trees had never been weeviled on three 100-tree plots north of Alturas Lake. Presently, only 11 of these 34 trees have escaped feeding damage. All other study-trees have weevil killed terminals or dead laterals that have assumed dominance after terminal death.

ATTACKS BY LODGEPOLE TERMINAL WEEVIL IN
SAPLINGS FOR 1972 OBSERVATIONAL PERIOD
SAWTOOTH N.F. - IDAHO

No. of Trees	Plot 1	Plot 2	Plot 3
Weeviled (1970)	62	60	39
Weeviled (1971)	68	62	62
Non-weeviled (1971)	32	38	38
Never weeviled during study*	(5)	(6)	0

*Figures in parentheses included in "non-weeviled 1971."

Due to the weevils' feeding habits and late signs of visual damage (March and April) data is one year behind actual damage.

CALIFORNIA TORTOISE-SHELL BUTTERFLY - Nymphalis californica (Bdv.)

This insect, a heavy feeder on Ceanothus velutinus, is indigenous to the Western Region. During severe localized epidemics, as experienced in 1959, 1961, and this year, browse shrubs and other broadleafed plants may be damaged. Aerial observations showed 5,100 acres of defoliation ranging from light to extremely heavy on the Fairfield Ranger District.

The adults are colored orange on upper wing surface and black underneath with a wing spread of two inches or more, and pass the winter in hibernation. Large groups can be readily observed in late spring, sucking moisture from pools along forest roads. They migrate in mass to Ceanothus type and lay eggs in clusters on the underside of old growth leaves. The larva (caterpillar) is black with three rows of finely branched spines per body segment. The outside rows are usually black, and in the middle row yellow. Before pupation, these caterpillars usually attain a length of about 1½ inches. Pupae, which are somewhat crescent shaped with a waxy bluish-black iridescence, are constructed near the top of the bush, hanging head down. The pupae twitch violently when disturbed by touch or loud sounds.

The long-term effect of heavy defoliation on *Ceanothus* sp. and other broad-leaves is unknown. However, most areas observed this fall have refoliated to some degree. Since populations of California tortoise-shell are extremely cyclic, trends are difficult to predict.